

### **Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application.

### **Listing of Claims:**

1. (Currently Amended) A method of monitoring and providing online connectivity sources, comprising;

monitoring a connectivity status of one or more connectivity sources, the one or more connectivity sources comprising at least a first connectivity source and a second connectivity source;

selecting one of one or more available connectivity sources for use for online communications;

connecting a user's computer to a remote computing system via the selected available connectivity source;

monitoring whether the connection to the remote computing system via the selected connectivity source has failed;

if the connection is detected as failed, then scheduling a poll on a background software thread;

if the poll fails, then generating a notification that the connection to the remote computing system via the selected connectivity source is disconnected, wherein the selected connectivity source comprises the first connectivity source;

attempting reconnection to the remote computing system;

if the selected connectivity source is lost, determining whether ~~[[a]]~~ the second connectivity source is available;

if ~~[[a]]~~ the second connectivity source is available, automatically connecting the user's computer to the remote computing system via the second connectivity source without user action;

reducing an interval at which reconnection to the remote computing system is allowed from a first interval to a second interval after not being able to connect to the remote computing system using the ~~one of the one or more connectivity sources~~

first connectivity source for a given time period so that a connection attempt may be made to the remote computing system via the second connectivity source after the reduced interval;

resetting the time period upon detecting a network change, the network change comprising a hardware change at the user's computer;

switching back to the ~~reduced~~ first interval upon detecting at least one of a the network change and a successful connection via the one of the one or more connectivity sources; and

marking the one or more connectivity sources as inoperable while the user's computer is shutting down to prevent subsequent online communication events from adding to shutdown delays.

2. (Original) The method of Claim 1, whereby monitoring the connectivity status of one or more connectivity sources includes monitoring network connectivity hardware at the user's computer.

3. (Original) The method of Claim 2, further comprising monitoring whether the user's computer is wired to a connectivity source.

4. (Original) The method of Claim 3, further comprising monitoring whether signaling is received from a connectivity source via a wired connection.

5. (Original) The method of Claim 2, further comprising monitoring whether the user's computer includes a wireless access card or antenna.

6. (Original) The method of Claim 5, further comprising monitoring whether signaling is received via the wireless access card or antenna from a connectivity source.

7. (Original) The method of Claim 1, whereby monitoring the connectivity status of a plurality of one or more connectivity sources includes determining the data transfer speed and bandwidth capacity associated with a given connectivity source.

8. (Original) The method of Claim 1, whereby monitoring the connectivity status of a plurality of one or more connectivity sources includes monitoring the connectivity status by a network location awareness (NLA) application programming interface (API).

9. (Original) The method of Claim 1, after monitoring the connectivity status of the plurality of one or more connectivity sources, reporting the connectivity status to a network connection manager module.

10. (Original) The method of Claim 9, further comprising reporting the connectivity status to a user's computer operating system.

11. (Original) The method of Claim 1, prior to connecting the user's computer to a remote computing system via the selected available connectivity source, determining which of one or more available connectivity sources is a preferred connectivity source.

12. (Original) The method of Claim 11, whereby determining which of one or more connectivity sources is a preferred connectivity source includes determining which of one or more available connectivity sources has a highest bandwidth capacity.

13. (Original) The method of Claim 1, whereby selecting one or more available connectivity sources includes selecting one of the one or more available connectivity sources for connecting a software application in use on the user's computer to a remote server for online communication services.

14. (Original) The method Claim 13, further comprising connecting the software application to a remote software application at the remote server for online communication services.

15. (Original) The method of Claim 9, whereby connecting the user's computer to a remote computing system via the selected available connectivity source includes

directing a connection software module to provide a provider connection software module with the selected available connectivity source;

causing the provider connection software module to connect the user's computer to the remote computing system via the selected connectivity source; and

directing an exchange provider software module to begin passing data calls from the user's computer to the remote computing system via the selected connectivity source.

16. (Original) The method of Claim 1, further comprising communicating between the user's computer and the remote computing system via the selected connectivity source.

17. (Original) The method of Claim 16, further comprising communicating via the selected connectivity source using a transmission control protocol/Internet protocol (TCP/IP) communication.

18. (Original) The method of Claim 17, further comprising communicating by remote procedure calls (RPC) between the user's computer and the remote computing system over the TCP/IP communication connection.

19. (Original) The method of Claim 17, whereby if communication using the TCP/IP communication connection fails, determining whether the user's computer is configured to communicate over the selected connectivity source using remote procedure calls over a hypertext transfer protocol (HTTP) communication connection; and

if the user's computer is configured to communicate over the selected connectivity sources using RPC over the HTTP communication connection, connecting the user's computer to the remote computing system by RPC over the HTTP communication connection via the selected connectivity source.

20. (Original) The method of Claim 1, whereby monitoring the connectivity status of one or more connectivity sources includes determining whether a presently in use connectivity source is disabled.

21. (Original) The method of Claim 20, further comprising determining whether a remote computing system with which the user's computer is communicating becomes disabled from communication with the user's computer.

22. (Original) The method of Claim 1, whereby monitoring the connectivity status of one or more connectivity sources includes determining whether an available alternate connectivity source from the connectivity source presently in use is a preferred connectivity source.

23. (Original) The method of Claim 22, further comprising determining whether an alternate connectivity source provides a higher bandwidth capacity from the connectivity source presently in use.

24. (Original) The method of Claim 22, whereby if an available alternate connectivity source is a preferred connectivity source, automatically connecting the user's computer to the remote computing system via the alternate connectivity source.

25. (Previously Presented) The method of Claim 1, whereby if a second connectivity source is not available, automatically switching the user's computer from an online to an offline state.

26. (Original) The method of Claim 25, further comprising causing a connection software module to instruct an exchange provider software module to suspend data calls to the remote computing system via the presently in use connectivity source.

27. (Original) The method Claim 1, further comprising notifying a user of the user's computer of any changes in connectivity status.

28. (Currently Amended) A system for monitoring and providing online connectivity sources, comprising;

a connection manager module operative

to monitor a connectivity status of one or more connectivity sources, the one or more connectivity sources comprising at least a first connectivity source and a second connectivity source;

to select one of one or more available connectivity sources for use for online communications;

to connect a client application to a remote application via the selected available connectivity source;

to monitor whether the connection to the remote computing system via the selected connectivity source has failed;

if the connection is detected as failed, then to schedule a poll on a background software thread;

if the poll fails, then to generate a notification that the connection to the remote computing system via the selected connectivity source is disconnected, wherein the selected connectivity source comprises the first connectivity source;

to attempt reconnection to the remote computing system;

to determine whether ~~[[a]]~~ the second connectivity source is available if the selected connectivity source is lost;

to automatically connect the client application to the remote application via the second connectivity source without user action if ~~[[a]]~~ the second connectivity source is available;

to reduce an interval at which reconnection to the remote computing system is allowed from a first interval to a second interval after not being able to connect to the remote computing system using the ~~one or more connectivity sources~~ first connectivity source for a given time period so that a connection attempt may be made to the remote computing system via the second connectivity source after the reduce interval;

to reset the time period upon detecting a network change, the network change comprising a hardware change at a user's computer for connecting to the remote computing system using the one or more connectivity sources;

to switch back to the ~~reduced~~ first interval upon detecting ~~at least~~

~~one of a~~ the network change ~~and a successful connection via the one of the one or more~~  
~~connectivity sources~~; and

to mark the one or more connectivity sources as inoperable while  
shutting down to prevent subsequent online communication events from adding to  
shutdown delays.

29. (Currently Amended) The system of Claim 28, whereby the connection  
manager module is further operative to communicate with a network location awareness  
(NLA) application programming interface (API);

the NLA API being operative

to monitor network connectivity hardware at ~~[[a]]~~ the user's  
computer;

to monitor whether the user's computer is wired to a connectivity  
source;

to monitor whether signaling is received from a connectivity  
source via a wired connection;

to monitor whether the user's computer includes a wireless access  
card or antenna;

to monitor whether signaling is received via the wireless access  
card or antenna from a connectivity source;

to determine the data transfer speed and bandwidth capacity  
associated with a given connectivity source; and

to report the connectivity status to the connection manager module.

30. (Original) The system of Claim 28, whereby the connection manager module  
is further operative to receive a preferred connectivity source for a computer operating  
system through which the client application is operating and to automatically connect the  
client application to the remote application via the preferred connectivity source if the  
preferred connectivity source is available.

31. (Previously Presented) The system of Claim 28, whereby the connection  
manager module is further operative

to direct a connection module to provide a provider connection software module with the selected connectivity source;

to direct the provider connection software module to connect the user's computer to the remote computing system via the selected connectivity source; and

to direct an exchange provider software module to begin passing data calls from the user's computer to the remote computing system via the selected connectivity source.

32. (Original) The system of Claim 31, whereby the connection manager is further operative

to determine whether the client application is configured to communicate over the selected connectivity source using remote procedure calls over a hypertext transfer protocol (HTTP) communication connection, if communication using a TCP/IP communication connection fails; and

to connect the client application to the remote application by RPC over the HTTP communication connection via the selected connectivity source, if the user's computer is configured to communicate over the selected connectivity sources using RPC over the HTTP communication connection.

33. (Currently Amended) A computer readable medium containing instructions which when executed by a computer, perform a method of monitoring and providing online connectivity sources, comprising;

monitoring a connectivity status of a plurality of connectivity sources, the plurality of connectivity sources comprising at least a first connectivity source and a second connectivity source;

if more than one of the plurality of connectivity sources is available, then determining which of the plurality of available connectivity sources is a preferred connectivity source;

selecting the preferred connectivity source for use for online communications;



connecting a client application to a remote application via the selected connectivity source, wherein if the selected connectivity source has a low bandwidth, then providing a notification that the client application is operating in a low bandwidth mode and altering the quantity and speed of data transmission of the client application according to an alternative bandwidth profile to reflect the reduced bandwidth availability of the low bandwidth connectivity source;

monitoring whether the connection to the remote computing system via the selected connectivity source has failed;

if the connection is detected as failed, then scheduling a poll on a background software thread;

if the poll fails, then generating a notification that the connection to the remote computing system via the selected connectivity source is disconnected, wherein the selected connectivity source comprises the first connectivity source;

attempting reconnection to the remote computing system;

if the selected connectivity source is lost, determining whether [[a]] the second connectivity source is available;

if [[a]] the second connectivity source is available, automatically connecting the client application to the remote application via the second connectivity source without user action;

communicating via the selected or the second connectivity source using a transmission control protocol/Internet protocol (TCP/IP) communication;

if communication using the TCP/IP communication connection fails, determining whether the client application is configured to communicate over the selected or second connectivity source using remote procedure calls over a hypertext transfer protocol (HTTP) communication connection;

if the client application is configured to communicate over the selected or second connectivity sources using RPC over HTTP communication connection, connecting the client application to the remote application via RPC over HTTP communication connection via the selected or second connectivity source;

reducing an interval at which reconnection to the remote computing

system is allowed from a first interval to a second interval after not being able to connect to the remote computing system using the at least one of the plurality of connectivity sources first connectivity source for a given time period so that a connection attempt may be made to the remote computing system via the second connectivity source after the reduced interval;

resetting the time period upon detecting a network change, the network change comprising a hardware change at a client computer for executing the client application;

switching back to the ~~reduced~~ first interval upon detecting the at least one ~~of a hardware change at [[a]] the client computer and a successful connection via the at least one of the plurality of connectivity sources~~; and

marking the one or more connectivity sources as inoperable while shutting down to prevent RPC during shutdown from adding to shutdown delays.

34. (Original) The computer readable medium of Claim 33, whereby monitoring the connectivity status of one or more connectivity sources includes monitoring network connectivity hardware at a user's computer on which the client application is running.

35. (Original) The computer readable medium of Claim 34, further comprising monitoring whether the user's computer is wired to a connectivity source.

36. (Original) The computer readable medium of Claim 35, further comprising monitoring whether signaling is received from a connectivity source via a wired connection.

37. (Original) The computer readable medium of Claim 34, further comprising monitoring whether the user's computer includes a wireless access card or antenna.

38. (Original) The computer readable medium of Claim 37, further comprising monitoring whether signaling is received via the wireless access card or antenna from a connectivity source.

39. (Original) The computer readable medium of Claim 34, whereby monitoring the connectivity status of one or more connectivity sources includes determining the data transfer speed and bandwidth capacity associated with a given connectivity source.

40. (Original) The computer readable medium of Claim 33, whereby monitoring the connectivity status of one or more connectivity sources includes monitoring the connectivity status by a network location awareness (NLA) application programming interface (API).

41. (Original) The computer readable medium of Claim 33, whereby connecting the client application to a remote application via the selected ~~available~~ connectivity source includes

directing a connection software module to provide a provider connection software module with the selected available connectivity source;

causing the provider connection software module to connect the user's computer to the remote computing system via the selected connectivity source; and

directing an exchange provider software module to begin passing data calls from the user's computer to the remote computing system via the selected connectivity source.

42. (Original) The computer readable medium of Claim 33, whereby monitoring the connectivity status of one or more connectivity sources includes determining whether a presently in use connectivity source is disabled.

43. (Original) The computer readable medium of Claim 33, further comprising determining whether a remote application with which the client application is communicating becomes disabled from communication with the user's computer.

44. (Original) The computer readable medium of Claim 33, whereby monitoring the connectivity status of one or more connectivity sources includes determining whether an available alternate connectivity source from the connectivity source presently in use is a preferred connectivity source.

45. (Original) The computer readable medium of Claim 44, further comprising determining whether an alternate connectivity source provides a higher bandwidth capacity from the connectivity source presently in use.

46. (Original) The computer readable medium of Claim 45, whereby if an available alternate connectivity source is a preferred connectivity source, automatically connecting the client application to the remote application via the alternate connectivity source.

47. (Previously Presented) The computer readable medium of Claim 33, whereby if a second connectivity source is not available, automatically switching the client application from an online to an offline state.